

1 We claim:

2
3 1. An improved shopping cart wheel comprising:

4
5 a wheel hub supporting a wheel thereon and having a central axial
6 opening having inner and outer sides;

7
8 a first precision bearing unit having a rotating cylindrical
9 central hub, an outer toroidal bearing jacket surrounding said
10 central hub and a plurality of ball bearings rotatably mounted
11 within said outer toroidal bearing jacket and rotatably
12 supporting said rotating central hub therebetween;

13
14 a second precision bearing unit having a rotating cylindrical
15 central hub, an outer toroidal bearing jacket surrounding said
16 central hub and a plurality of ball bearings rotatably mounted
17 within said outer toroidal bearing jacket and rotatably
18 supporting said rotating central hub therebetween;

19
20 said first and second precision bearing units mounted within said
21 central axial opening of said wheel hub with said first
22 precision bearing unit adjacent one end of said central axial
23 opening and said second precision bearing unit adjacent the
24 opposite end of said central axial opening; and

25
26 said central hub of said first precision bearing unit contacting
27 said central hub of said second precision bearing unit in
28 generally coaxial alignment within said central axial opening

1 such that said improved shopping cart wheel will withstand
2 greater side load forces and have increased weight-carrying
3 capacity.
4

5 **2.** The improved shopping cart wheel of claim **1** further
6 comprising a generally cylindrical metal spanner mounted within
7 said central axial opening and extending between and connecting
8 said rotating central hubs of said first and second precision
9 bearing units such that the structural strength of said improved
10 shopping cart wheel is increased.
11

12 **3.** The improved shopping cart wheel of claim **1** wherein said
13 central axial opening of said wheel hub further comprises a cross-
14 sectional step configuration wherein the outer ends of said central
15 axial opening are of greater diameter than the inner connecting
16 section of said central axial opening such that said first and
17 second precision bearing units fit snugly and securely into said
18 central axial opening thereby minimizing wobble motion of said
19 improved shopping cart wheel when it is mounted on a shopping cart.
20

21 **4.** The improved shopping cart wheel of claim **1** wherein said
22 outer toroidal bearing jackets of said first and second precision
23 bearing units are each generally square U-shaped in cross section
24 to provide a channel in which rotatably reside said plurality of
25 ball bearings which respectively rotatably support said central
26 hubs of said first and second precision bearing units therebetween.
27

28 **5.** The improved shopping cart wheel of claim **1** wherein said

1 first and second precision bearing units are each sealed to
2 generally prevent incursion of foreign objects into said first and
3 second precision bearing units and the need for lubrication of said
4 first and second precision bearing units is generally eliminated.

1 6. In combination:

2
3 a shopping cart including a plurality of wheel-mounting brackets,
4 each of which further includes a mounting pin operative to
5 rotatably mount a wheel on one of said plurality of wheel-
6 mounting brackets; and

7
8 an improved shopping cart wheel comprising:

9
10 a wheel hub supporting a wheel thereon and having a central
11 axial opening having inner and outer sides;

12
13 a first precision bearing unit having a rotating cylindrical
14 central hub, an outer toroidal bearing jacket surrounding
15 said central hub and a plurality of ball bearings
16 rotatably mounted within said outer toroidal bearing
17 jacket and rotatably supporting said rotating central hub
18 therebetween;

19
20 a second precision bearing unit having a rotating cylindrical
21 central hub, an outer toroidal bearing jacket surrounding
22 said central hub and a plurality of ball bearings
23 rotatably mounted within said outer toroidal bearing
24 jacket and rotatably supporting said rotating central hub
25 therebetween;

26
27 said first and second precision bearing units mounted within
28 said central axial opening of said wheel hub with said

1 first precision bearing unit adjacent one end of said
2 central axial opening and said second precision bearing
3 unit adjacent the opposite end of said central axial
4 opening; and
5

6 said central hub of said first precision bearing unit
7 generally adjacent said central hub of said second
8 precision bearing unit in generally coaxial alignment
9 within said central axial opening such that said improved
10 shopping cart wheel will withstand greater side load
11 forces and have increased weight-carrying capacity.
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1 7. An improved shopping cart wheel comprising:

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3 a wheel hub supporting a wheel thereon and having a central axial
4 opening having inner and outer sides;

5
6 a first precision bearing unit having a rotating cylindrical
7 central hub, an outer toroidal bearing jacket surrounding said
8 central hub and a plurality of ball bearings rotatably mounted
9 within said outer toroidal bearing jacket and rotatably
10 supporting said rotating central hub therebetween;

11
12 a second precision bearing unit having a rotating cylindrical
13 central hub, an outer toroidal bearing jacket surrounding said
14 central hub and a plurality of ball bearings rotatably mounted
15 within said outer toroidal bearing jacket and rotatably
16 supporting said rotating central hub therebetween;

17
18 said first and second precision bearing units mounted within said
19 central axial opening of said wheel hub with said first
20 precision bearing unit adjacent one end of said central axial
21 opening and said second precision bearing unit adjacent the
22 opposite end of said central axial opening; and

23
24 a generally cylindrical metal spanner extending between and
25 connecting said central hubs of said first and second
26 precision bearing units in generally coaxial alignment within
27 said central axial opening such that said improved shopping
28 cart wheel has increased durability.